

CH

9

Concentration tests on Degtyar copper-iron ore deposits. K. A. RAZUMOV. *Gorno-Obogetelnoe Delo* 1932, No. 7-8, 48-50. Ore samples from Degtyar deposits analyzed as follows: Cu 2.50-3.00, Fe 43.49-44.10, S 49.08-49.24, SiO₂ 1.42-1.28, CaO 0.0-0.43, BaSO₄ 2.41-2.50%, Au 0.37-0.44 g./ton, Ag 0.0175-0.021 kg./ton and Pb and Zn traces. The ore was difficult to float and required a pulverization of 93-98% passing through a 200-mesh sieve or 82-88% passing a 250-mesh sieve. The best results were obtained by adding such amts. of CaO to the ore in the grinding process that the outgoing liquid from the flotation process contained at least 350-400 g. of CaO per ton. By using CaO, vanthates and pine oil as reagents the results were: yield of conc. 10-22%, Cu in conc. 12-19%, recovery of Cu in conc. 80-87% of total originally present in the ore.

S. L. MADORSKY

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Separating chalcocopyrite and bornite from the molybdenite or other sulfide ores by flotation. K. F. Beloglazov and K. A. Kazumov. Russ. 37,031, Jan. 31, 1934. Before flotation the material is treated with sulfite and an acid, such as H₂SO₄, for the purpose of converting the surface of the chalcocopyrite and bornite grains into chalcoite and covellite.

MATERIALS INDEX

A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION

STANDARDIZATION

1938-1939

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

Air-lift balloon apparatus. K. A. Razumov. Russ.
38,607, Sept. 30, 1934. Construction details.

1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
PROCESSING AND PROPERTIES INDEX																			
Nephelite and vanadium concentrates from Khibin apatite-nephelite ore. K. A. Razumov. <i>Norvits Tekhniki, Ser. Gornorudnaya Prom.</i> 1935, No. 18, 9-10. -The residue of apatite flotation of the mineral (contg. 22.5% P₂O₅) was treated with 0.1 kg. ton of oleic acid and 3.5 kg. ton of peat tar. The titanomagnetite-acidite fraction obtained from nephelite flotation was treated in a Vetterli electromagnetic separator to obtain a rich V product.																			
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1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSES AND PROPERTIES INDEX																			
Tin concentrates from Pamir ore. K. A. Razumov. <i>Novosti Tekhniki, Ser. Gornostroitel'stvo</i>, No. 20, 10.—The ore of Dukent deposits contains 0.27% Sn. It was possible to prep. a Sn concentrate of 32-60% Sn. 75% of which was recovered by extn. A. A. Podgorny.																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION										E-2									
80000 100000 200000 300000 400000 500000 600000 700000 800000 900000										1000000 1100000 1200000 1300000 1400000 1500000 1600000 1700000 1800000 1900000									

RAZUMOV, Konstantin Aleksandrovich, ed.

Leningrad.

Institut mekhanicheskoi obrabotki poleznykh iskopaemykh. 15 let na sluzhbe...1935-37.
(Card 2 43-43501) Metallurgy, collected works

TN607.144

PROCESSING AND PROPERTIES INDEX									
191 AND 150 GROUP 191 AND 150 GROUP									
CA RAZUMOV, K. A. 1									
Cand. Tech. Sci. 									
Calculation of quantitative concentration flowsheets in designing and plant testing. K. A. Razumov (Leningrad School Miners). <i>Trudy M.I. 20</i>, No. 2, 14-22(1947). — 									
For calcg. quantitatively a concn. scheme, it is necessary to det. the no. of indexes required for calcg., select the proper indexes, and det. the remaining indexes from material balance equations. For calcg. the flowsheet of an operating plant it is necessary also to det. the no. of sampling points and the no. of tests at each point and analyze chemically the samples taken. The interrelation of these concepts and their numerical calcg. is explained and illustrated. 									
M. Hloch — 									
Leningrad Mining Inst. 									
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION 									
191 AND 150 GROUP 191 AND 150 GROUP									
191 AND 150 GROUP 191 AND 150 GROUP									

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Relation between the output of a mill and the closed circuit load. K. A. Razumov (Leningrad Mining Inst.; *Georgi Zhur.*, 123, No. 6, 29-35, 1949). A general formula is derived for calculating the output of a mill when the load in the circuit is changed. The size of the ground material is independent of the original size of the ore and of the length of time in which the ore stays in the mill. It is determined solely by the grinding conditions, i.e., the nature of the grinding balls, rate of rotation, and pulp density. An expression for the optimum load (with regard to cost) of a closed grinding circuit is derived. M. Hosh

RAZUMIKHIN, B.S.

AUTHOR: RAZUMIKHIN, B.S. (Moscow)

40-4-19/24

TITLE: On the Stability of Systems With Small Parameter (Ob ustoychivosti sistem s malym mnozhitel'm)

PERIODICAL: Prikladnaya Mat.i Mekh., 1957, Vol.21, Nr 4, pp.578-580 (USSR)

ABSTRACT: Let the systems

$$(1) \quad \frac{dx_i}{dt} = \sum_{j=1}^n p_{ij}(t)x_j \quad (i=1, \dots, n-1) \quad \mu \frac{dx_n}{dt} = \sum_{j=1}^n p_{nj}(t)x_j$$

and

$$(2) \quad \frac{dx_i}{dt} = \sum_{j=1}^{n-1} (p_{ij}(t) - p_{in}(t) \frac{p_{nj}(t)}{p_{nn}(t)})x_j \quad (i=1, \dots, n-1)$$

be given. The coefficients $p_{ij}(t)$ and their derivatives are assumed to be continuous and bounded, furthermore let be $|p_{nn}(t)| > \varepsilon > 0$ for $t \geq t_0$. Let

$$V_0 = \sum_{i,j=1}^{n-1} \alpha_{ij} x_i x_j \quad \text{be the Lyapunov function of (2). The}$$

CARD 1/3

author wants to determine such coefficients $\alpha_{1n}, \dots, \alpha_{nn}$ that the quadratic form

On the Stability of Systems With Small Parameter

40-4-19/24

$$V = V_0 + \mu(2\alpha_{1n}x_1x_n + \dots + 2\alpha_{n-1,n}x_{n-1}x_n + \alpha_{nn}x_n^2)$$

is a Lyapunov function for (1). It is shown: If under suitable presuppositions μ is sufficiently small and $\mu p_{nn}(t) < 0$, then the asymptotic stability of (1) follows from the asymptotic stability of (2). The interval of the admissible μ -values is defined, under arbitrarily chosen α_{nn} which satisfies the conditions $\mu\alpha_{nn} > 0$, $p_{nn}(t)\alpha_{nn} < 0$, by the inequalities

$$\begin{vmatrix} \alpha_{11} & \dots & \alpha_{1,n-1} & \mu\alpha_{1n} \\ \dots & \dots & \dots & \dots \\ \alpha_{n-1,1} & \dots & \alpha_{n-1,n-1} & \mu\alpha_{n-1,n} \\ \mu\alpha_{n1} & \dots & \mu\alpha_{n,n-1} & \mu\alpha_{nn} \end{vmatrix} > 0$$

and

CARD 2/3

On the Stability of Systems With Small Parameter

40-4-19/24

$$(-1)^n \begin{vmatrix} a_{1,1} + \mu\gamma_{1,1} & \dots & a_{1,n-1} + \mu\gamma_{1,n-1} & \mu\gamma_{1n} \\ \dots & \dots & \dots & \dots \\ a_{n-1,1} + \mu\gamma_{n-1,1} & \dots & a_{n-1,n-1} + \mu\gamma_{n-1,n-1} & \mu\gamma_{n-1,n} \\ \mu\gamma_{n1} & \dots & \mu\gamma_{n,n-1} & \mu\gamma_{nn} + \frac{\alpha_{nn}}{p_{nn}(t)} \end{vmatrix} > 0$$

where the a_{ij} are the coefficients of the quadratic form

$\left(\frac{dV}{dt}\right)_0$ and the γ_{ij} are the coefficients of a further rather complicated form.

SUBMITTED: April 5, 1956

AVAILABLE: Library of Congress

CARD 3/3

RAZUMNIK, B.S., Doc Phys-Math Sci--(disc) "The ^{applicat.} ~~the~~ Lyapunov
method to certain problems of the stability of motion." Mos. Publishing
House of the Acad of Sci USSR, 1959. 10 pp. (Acad Sci USSR. Inst of
Mechanics), 145 copies. Bibliography at end of text (19 titles)
(11,45-57, 141)

~ 3 -

AUTHOR: Razumikhin, B.S. (Moscow) 40-22-2-2/21
TITLE: Stability in First Approximation for Systems With Dead Times
(Ustoychivost' po pervomu priblizheniyu sistem s zapazdyva-
niyem)
PERIODICAL: Prikladnaya matematika i mekhanika, 1958, Vol 22, Nr 2, pp 155-166
(USSR)
ABSTRACT: In the paper the author generalizes several results of sta-
bility theory to systems with dead times. Sufficient stability
conditions for the motions of first approximation of such
systems are calculated. It is assumed that the corresponding
systems which result from the initial system by setting the
dead times equal to zero, are asymptotically stable, and that
it is possible to find a Lyapunov function for them. A method
for the establishment of a Lyapunov function for the initial
equations is given, and from the conditions for the definite-
ness of this function a condition for the stability is ob-
tained. Three theorems are proved, whereby the author refers
to a larger paper published by him two years ago [Ref 2] .
It is shown that the condition for asymptotic stability of the
zero solution of a system with dead times simultaneously re-
presents a sufficient condition for the asymptotic stability

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Stability in First Approximation for Systems With
Dead Times

40-22-2-2/21

of the original system without dead times.
Finally the author investigates the stability of motions which
are described by the differential equations :

$$\ddot{\varphi}(t) + a_1 \dot{\varphi}(t) + a_2 \varphi(t) + a_3 \varphi(t - \tau) = 0$$

There are 8 Soviet references.

SUBMITTED: June 27, 1957

1. Stability---Theory

Card 2/2

AUTHOR: Razumikhin, B.S. (Moscow)

SOV/40-22-3-6/21

TITLE: On the Application of Lyapunov's Method to Stability Problems
(O primeneniі metoda Lyapunova k zadacham ustoychivosti)

PERIODICAL: Prikladnaya matematika i mekhanika, 1958, Vol 22, Nr 3,
pp 338 - 349 (USSR)

ABSTRACT: The author considers a system of differential equations of the following form

$$(1.1) \quad \frac{dx_i}{dt} = \sum_{j=1}^n p_{ij}(t)x_j \quad (i=1, \dots, n) .$$

Here the $p_{ij}(t)$ are known, continuous and bounded functions of time. The n^2 numbers p_{ij} are understood as coordinates of a

point in an n^2 -dimensional P-space.

Now a Lyapunov function $V(t, x_1, x_2, \dots, x_n)$ is considered which is assumed to be definite. Its total derivative with respect to the time now depends on the time as well as on the coefficients of the system. The author investigates that domain $L(V)$ of the

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On the Application of Lyapunov's Method to Stability Problems

SOV/40-22-3-6/21

space P in which the total derivative of the Lyapunov function is definite with a sign inverse to that of the Lyapunov function itself. According to the stability theorem of Lyapunov the disturbed motion of the initial system is stable in this domain.

In the case of constant time coefficients the Lyapunov function can be simply obtained as a quadratic form. Then some general statements on the form of the stability domain can be made. The method is also applicable, however, to systems with coefficients depending on time and can be even transferred to non-linear systems without many difficulties. There are 3 Soviet references.

SUBMITTED: March 24, 1956

Card 2/2

S/103/60/021/06/06/010
B012/B054

AUTHOR: Razumikhin, B. S. (Moscow)

TITLE: Application of the Lyapunov Method to Problems of Stability
of Delay Systems

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 6,
pp. 740 - 748

TEXT: On the basis of Lyapunov's theory of the stability of motion the author investigates the stability of delay systems. The differential equation (1) is written down. The characteristic feature of Lyapunov's method for this case is pointed out. In the present case, the principal task is to select a class of curves in the case of which the fulfillment of Lyapunov's conditions guarantees the stability of delay systems. It is shown that the method of V-functions by Lyapunov is suitable for investigating the stability of delay systems. The class of functions mentioned is defined by the Lyapunov function itself. Three stability theorems are investigated, and it is shown by examples that the Lyapunov method is an efficient and universal method for investigating the stability

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Application of the Lyapunov Method to Problems
of Stability of Delay Systems

S/103/60/021/06/06/016
B012/B054

of delay systems. It is further shown that, for problems of stability in first approximation, quadratic forms can also be used for the investigation of delay systems. Finally, the disturbances are dealt with. A paper by N. N. Krasovskiy (Ref. 1) is mentioned. There are 4 figures and 2 Soviet references.

Card 2/2

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B

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S/508/60/029/000/002/012
D225/D303

16.8000(1013, 1132, 1068)

AUTHOR: Razumikhin, B.S. (Moscow)

TITLE: Stability of non-linear systems of automatic regulation with lagging

PERIODICAL: Akademiya nauk SSSR. Inzhenernyy sbornik, v.29, 1960, 21-29

TEXT: The aim of the paper is to find a solution for the system of differential equations describing the processes in the non-linear systems of automatic regulation with lagging of control signal.

$$\eta_i(t) = \sum_{j=1}^n b_{ij} \eta_j(t) + k_i f[\sigma(t-\tau)] \quad (i=1, \dots, n) \quad (1.1)$$

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Stability of non-linear ...

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D225/D303

$$\sigma(t) = \sum_{i=1}^n c_i \eta_i(t)$$

where b_{ij} , k_i , c_i are constants, and $f(\sigma)$ the characteristic of the servometer which satisfies the following condition:

$$f(0) = 0, \sigma f(\sigma) > 0 \text{ for } \sigma \neq 0 \quad (1.2)$$

The system (1.1) could be easily changed to systems

$$x_i(t) = \sum_{j=1}^n p_{ij} x_j(t) + l_i f[x_n(t - \tau)] \quad (i=1, \dots, n) \quad (1.3)$$

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Stability of non-linear ...

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where

$$x_j = \eta_j \quad (j=1, \dots, n-1), \quad x_n = \sigma$$

$$p_{ij} = b_{ij} - \frac{b_{in}}{c_n} c_j \quad (i, j = 1, \dots, n-1), \quad p_{in} = \frac{b_{in}}{c_n} \quad (i=1, \dots, n-1)$$

$$p_{nj} = c_n b_{nj} - b_{nn} c_j + \sum_{s=1}^{n-1} c_s \left(b_{sj} - \frac{b_{sn}}{c_n} c_j \right) \quad j=1, \dots, n-1$$

(1.4)

$$p_{nn} = \frac{1}{c_n} \sum_{j=1}^n c_j b_{jn}, \quad l_i = k_i \quad (i=1, \dots, n-1), \quad l_n = \sum_{j=1}^n c_j k_j$$

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Stability of non-linear ...

To solve the given problem the criterion of asymmetric stability of the author (Ref. 3: PMM, v. 20, no. 4, 1956) could be used. If the system of differential equations is such that a positive function $V(t; x_1 \dots x_n)$ exists, whose derivative dV/dt is negative for each solution which satisfies the condition $V(\sigma, x_1(\sigma), \dots, x_n(\sigma)) \leq Vt; x_1(t), \dots, x_n(t)$ and for all values $t \geq t_0$ and $\sigma \leq t$, then the non-disturbed motion is asymptotically stable. It will be assumed that the system with a perfect regulator ($\tau = 0$)

$$x_i(t) = \sum_{j=1}^n p_{ij} x_j(t) + l_i f[x_n(t)] \quad (1.5)$$

is asymptotically stable: it is possible for such a system to form the sign-determined function which will satisfy Lapunov's theorem on asymptotic stability. The author shows first how to

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Stability of non-linear...

build Lapunov's functions for the linear systems:

$$y_i = \sum_{j=1}^n p_{ij} y_j + h_{i1} y_n \quad (i = 1, \dots, n) \quad (2.1)$$

For this system the Lapunov function was determined in the form

$$W(x_1, \dots, x_n) = \sum_{i,j=1}^n \alpha_{ij}^2 x_i x_j + 2 \int_0^x \alpha[u(x_n)] x_n dx_n \quad (2.13)$$

and the condition was found for the asymptotic stability

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Stability of non-linear...

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D225/D303

of the systems. To solve the stability problem for the systems (1.3) the Lagrange formula for increments was used

$$x_n(t - \tau) = x_n(t) - \tau x_n(t - \theta t)$$

where

$$0 \leq \theta \leq 1 \quad (3.1)$$

The system (1.3) passes, therefore, into a system

$$\dot{x}_i(t) = \sum_{j=1}^n p_{ij} x_j(t) + l_i f[x_n(t)] - \tau l_i \dot{x}_n(t - \theta \tau) f', \quad (3.3)$$

$$[x_n(t) - \theta_1 \tau x_n(t - \theta)]$$

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D225/D303

Stability of non-linear ...

If now W'_0 represents the positively determined function which is a derivative of a negatively determined function for the system (1.5) then $\frac{dW}{dt} =$

$$\frac{dW}{dt} = W'_0 - \tau x_n(t-\theta\tau) f' [x_n(t) - \theta_1 \tau x_n(t-\theta\tau)] \sum_{i=1}^n \frac{\partial W}{\partial x_i} l_i \quad (3.4)$$

from which it follows that $f(\sigma)$ have to be bounded. According to the criterion, formulated in the author's above-mentioned paper, the asymptotic stability for undisturbed motion takes place for positively determined functions $\frac{dW}{dt}$ satisfying

$$W[x_1(t-\omega), \dots, x_n(t-\omega)] \leq W[x_1(t), \dots, x_n(t)] \quad (3.6)$$

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Stability of non-linear ...

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D225/D303

There are 9 Soviet-bloc references.

4

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16 8000

S/044/62/000/003/079/092
C111/C333

AUTHOR: Razumikhin, B.S.

TITLE: Stability of relay systems

PERIODICAL: Referativnyy zhurnal., Matematika, no. 3, 1962, 56,
abstract 3 V 297 ("Inzhenernyy zh." (formerly Inzhenernyy sb.),
1961, 1, no. 1, 3 - 15)

TEXT: Systems of the relay type described by the differential
equations

$$\frac{dx}{dt} = Bx + Rf(\sigma) \quad (f(\sigma) \operatorname{sgn} \sigma, \quad \sigma = c'x)$$

are considered, where x, k, c -- n -dimensional vector columns, B an
 $n \times n$ - matrix with constant elements. Known results on the stability
of the position of equilibrium of such systems are obtained with the aid
of the direct Lyapunov method, whereby it is possible to extend these
results to the case, where the elements of the matrix B determining the
linear part of the system are functions of the time t .

[Abstracter's note : Complete translation.]

Card 1/1

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S/199/63/004/001/005/005
B112/B102

AUTHOR: Razumikhin, B. S.

TITLE: The stability of the solutions of systems of differential equations whose derivatives are associated with small factors

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 4, no. 1, 1963, 206-211

TEXT: For the system
$$\frac{dx_i}{dt} = \sum_{k=1}^m a_{ik}(t) x_k + \sum_{s=1}^n b_{is}(t) y_s \quad (i = 1, \dots, m),$$
 (1)

$$\mu \frac{dy_j}{dt} = \sum_{k=1}^m c_{jk}(t) x_k + \sum_{s=1}^n d_{js}(t) y_s \quad (j = 1, \dots, n),$$

whose coefficients are assumed to be continuous and bounded, the following is proved: If the roots of the equation $\det \|d_{js}(t) - \delta_{js} \lambda\| = 0$ satisfy the condition $\operatorname{Re} \lambda_i(t) < \epsilon < 0$ then there exists a bound $\bar{\mu}$ for the factor μ below which the trivial solution of (1) is asymptotically stable.

Card 1/2

The stability of the solutions...

SUBMITTED: April 27, 1961

S/199/63/004/001/005/005
B112/B102

X

Card 2/2

RASTINEN, I.L. (Moskva)

Problem on the optimal distribution of resources. Avtom. i telem. 26
no. 7:1227-1232. 1965. (MIRA 18:8)

43820-66 ENT(d)/I/ENP(1) IJP(c)

ACC NR: AP6023665

SOURCE CODE: UR/0103/66/000/004/0088/0103

AUTHOR: Vil'chevsky, N. O. (Moscow); Razumikhin, B. S. (Moscow)

ORG: none

TITLE: Mechanical model and method for the solution of a general problem of linear programming

SOURCE: Avtomatika i telemekhanika, no. 4, 1966, 88-103

TOPIC TAGS: linear programming, iteration, computer programming, electronic digital computer

ABSTRACT: An iteration method is proposed for the solution of a general problem of linear programming on an electronic digital computer. The approach is based on the penalty function method. It is shown that the linear programming problem is equivalent to the equilibrium problem for a certain mechanical system, or to the problem of the minimum potential energy in a mechanical model. This analogy is shown to be a natural physical substantiation of the penalty function method used. In the mechanical model adopted the cavities are filled with compressible gas so that the pressure in all cavities is equal. Model state behavior is described by means of a method of successive approximations, the mathematical essence of

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UDC: 519.82

U 4420-66

ACC NR: AP6023665

which is a particularized application of the method of steepest ascent. Orig. art. has: 2 tables and 59 formulas.

SUB CODE: 09,12/ SUBM DATE: 06Jul65/ ORIG REF: 005/ OTH REF: 004

Card

2/2

fr

L 43142-55
ACC NR: AP6013888
SOURCE CODE: UR/0020/66/107006/1234/1237

AUTHOR: Razumikhin, B. S.

ORG: Institute of Automation and Remote Control (Institut avtomatiki i telemekhaniki)

TITLE: Method of investigating the stability of systems with aftereffect

SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1966, 1234-1237

TOPIC TAGS: differential equation solution, system stability, motion equation, continuous function

ABSTRACT: This is a continuation of an earlier work by the same author (PMM, 20, v. 4, 1956) and deals with differential equations of perturbed motion composed of continuous functionals defined on piecewise continuous functions over a finite interval. A system corresponding to and leading this one is considered simultaneously. Three theorems derived from an extension of the Lyapunov function method are stated and proven. Two alternative methods for solving this problem are cited. The paper was presented by Academician Petrov, B. N., 21 July 65. Orig. art. has: 9 formulas.

SUB CODE: 12/ SUBM DATE: 15Jul65/ ORIG REF: 006/ OTH REF: 001

UDC: 517.949.22

Card 1/1 MLP

RAZUMIKHIN, Mark Alekseyevich; DEKABRUN, I.Ye., red.

[Erosion resistance of low-current contactors] Eroziionnaia
ustoichivost' malomoshchnykh kontaktov. Moskva, Izd-vo
"Energia," 1964. 80 p. (Biblioteka po avtomatike, no.104)
(MIRA 17:8)

S/182/62/000/009/002/004
DO40/D113

AUTHORS: Razumikhin, M.I., and Komarov, A.D.

TITLE: Determining the springing of sheet metals when stamping and bending straight edges using a rubber pad

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 9, 1962, 15-20

TEXT: A theoretical and experimental investigation resulted in proper undercut angles being found for the forming blocks of rubber-pad bending dies (Fig.1) and manual finishing operations after stamping being eliminated. New Soviet hydraulic presses П 307 (P307), previously described in "Kuznechno-shtampovochnoye proizvodstvo" no. 6, 1959, develop up to 400 kg/cm² in such dies, but much manual finishing is still necessary. The article contains theoretical calculations, graphs of experimental data, and tables of springing angles determined for the straight edges of parts stamped at a 90° bend angle and different radii (between 1 and 12 mm) from 0.5-2.0 mm thick sheets made of Д16АМ (D16AM), Д16АТ (D16AT), АМГ 6М (AMG6M) and ВТ1-2 (VT1-2) alloys. These tables are now being used in practice for calculating the undercut angles of forming blocks (Fig.2). Twenty forming

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Determining the springing of sheet metals... S/182/62/000/009/002/004
D040/D113

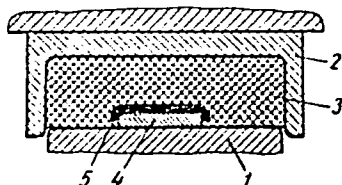


Fig.1. Schematic view of stamping in rubber bending dies:

- 1 - press table;
- 2 - container;
- 3 - rubber pad;
- 4 - forming block;
- 5 - part.

Card 3/3

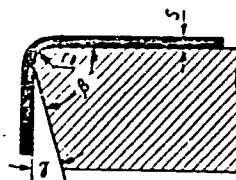


Fig.2. Undercut on the forming block. The undercut angle is equal to the springing angle.

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PHASE 1 BOOK EXPLOITATION

NOV/1955

Somezhnalye po elektricheskim kontaktam. Moscow, 1956.

Elektricheskiye kontakty: izudy sovetskimiye (Electrical Contacts: Transactions of the Conference) Moscow, Gosmetizdat, 1956. 301 p. 4,150 copies printed.

Material book: B.S. Gostayev (Resp. Ed.), V.Y. Ugarov, R.S. Kuznetsov, I.Ye. Dushayev, and Z.B. Kirillova. Eds.: I.Ye. Dushayev; Trans. Eds.: K.P. Vorobio.

REMARKS: This collection of articles is intended for engineers and technicians designing, developing and operating electrical apparatus and is concerned with electrical contact materials. It may also be useful to scientific research institutes and laboratories.

CONTENTS: This book comprises reports delivered at the Electric Contacts Conference held in Moscow in November, 1956. These papers cover physical processes occurring during connecting or disconnecting, methods of designing and testing electric contacts, production and characteristics of electrical contact materials. During this conference of the Institute of Electrical Engineering (Academy of Sciences, USSR) and the Institute of Electrical Engineering (Academy of Sciences, USSR) participants discussed problems of electrical contacts, which are the components of electric control systems. Their physical, thermal, mechanical and chemical processes have still not been well analyzed. References are given at the end of most of the reports.

AGRAWAL, J.Y., B.L. (Belorusskiy politehnicheskii institut - Belorussian Polytechnical Institute) Erosion of Electric Contact Materials. The author reports results of experimental investigation carried out by him at the Belorussian Polytechnical Institute on the influence of thermal and mechanical factors on the erosion of electric contacts. He also discusses the erosion resistance of a material by knowing its thermal parameters.

AGRAWAL, J.Y., B.L. Increasing the Erosion Resistance of Low-current Contacts in Automatic Apparatus. The author reports the results of experimental investigation of spark and arc or bridge erosion under operating conditions for various contact materials, air pressure and various frequencies. He also discusses 3 quench circuits (spark discharge circuits) used under low-current conditions.

PAUL, A.L. (Institut metallurgii - Institute of Metallurgy, Academy of Sciences, USSR) Function of Electric Contact in the Process of Forming a Welded Joint.

The author details his investigation of this problem. The total resistance in the welding process consists of the resistances of the two parts and the contact resistance. The latter is of great importance especially in the initial stage of welding process. The character of changes in the parameters of the welding process as a function of the electrical and mechanical parameters of the initial resistance is demonstrated. The very wide character in the initial resistance lead the author to conclude that this parameter is not suitable for evaluating the heat power determining the heating process in resistance welding.

II. DESIGN, APPLICATION AND TESTING METHOD

OSTROV, B.S. (Institut avtomatiki i telemekhaniki AN SSSR - Automation and Telemekhanika Institute, Academy of Sciences, USSR) Problems in Designing Electric Contacts. The author explains theoretical fundamentals, and derives practical formulas for design and calculation of relay contacts for erosion-free, spark and arc conditions.

BRON, O.B. (Zavod "Elektrosvetla", Leningrad - Leningrad "Elektrosvetla" Plant) Operating Conditions of Contacts in Collector and Automatic Circuit Breakers. The author discusses the basic problems relative to collectors, arc-suppression systems, and overall dimensions. He describes operating conditions of collectors at various distances and switching-on electric motors. He discusses the basic problems on switching-off and prolonging their life. Then changes in their design are given in electric air circuit-breakers. Then switching electromechanical repulsion of contacts, current-carrying links and liquid cooling of contacts.

RAZUMIKHIN, M.I.; SAPAROVSKIY, S.V.; FARMANOVA, V.N.

Rubber pad process for the blanking of outlines on hydraulic presses with a high specific pressure of the rubber. Kuz.-shtam. proizv. 5 no.11:21-23 N '63. (MIRA 17:1)

RAZUMIKHIN, M.I.; KOMAROV, A.D.

Determining the elastic springback of sheet metals during
rubber-pad forming of rectilinear edges. Kuz.-shtam. proizv.
4 no.9:15-20 S '62. (MIRA 15:9)
(Sheet-metal work)

ATAJOV, Yu.A.; BEISUNOV, V.A.; RAZUMIKHIN, V.N.

Measuring the compressibility of liquids by the method of the
bellows sealed piezometer at pressures up to 10,000 kgf/cm².

Trudy nat.kom.stand.mer i izm.prib. no.75:143-150 '64.

(MIRA 1841)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy.

SOROKIN, Igor' Nikolayevich; SARAKOVSKIY, Sergey Vladimirovich;
RAZUMIKHIN, M.I., prof., red. ; MIKHEYEV, M.I., red.

[Using vibration techniques in stretching sheet materials]
Obtiazhka listovykh materialov s primeneniem vibratsii.
Knibyshev, Knibyshevskoe knizhnoe izd-vo, 1962. 60 p.
(MIRA 18:3)

PYT'YEV, Petr Yakovlevich; TRAKHTENBERG, B.F., kand. tekhn. nauk,
dots., retsenzent; RAZUMIKHIN, M.I., kand. tekhn.nauk,
prof., red.; TURSKIY, P.V., red.; MIKHEYEV, N.I., red.;
VAKULOVSKAYA, T.N., tekhn. red.

[Simplified sheet bolster plate for cold die stamping]
Listovye uproshchennye podkladnye shtampy dlia kholodnoi
shtampovki. Kuibyshev, Kuibyshevskoe knizhnoe izd-vo,
1963. 133 p. (MIRA 17:2)

RAZUMIKHIN, M I

PHASE I BOOK EXPLOITATION

SOV/4218

Boytsov, Vasilii Vasil'yevich, Vasilii Prokhorovich Grigor'yev, Mikhail Ivanovich Razumikhin, Anna Andreyevna Selezneva, and Yevgraf Porfir'yevich Shekunov (Deceased)

Sborochnyye i montazhnyye raboty (Assembling and Erecting Operations). Moscow, Oborongiz, 1959. 476 p. (Series: Tekhnologiya samoletostroyeniya) Errata slip inserted. 6,000 copies printed.

Reviewer: G.A. Belyavskiy, Eng.; Ed.: Yu.M. Brodyanskiy, Eng.; Ed. of Publishing House: I.A. Suvorova; Tech. Ed.: N.A. Pukhlikova.

PURPOSE: This book is intended as a textbook for students in aeronautical schools of higher education and may be used by specialists in aircraft production.

COVERAGE: The book discusses the general problems of assembling and erecting operations in aircraft production, as well as the technological requirements for the construction of assemblies, panels, and units of an aircraft. A detailed study is made of the problems of the technological preparation of production, methods of designing, and the making and checking of assembly devices. The authors thank S.V. Yelisseyev, Candidate of the Technical Sciences, Docent at the Moscow Aviation Institute, and K.N. Vezenitsyna, Engineer, for their

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Assembling and Erecting Operations

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help in writing and editing the book. There are 12 references: 11 Soviet and 1 English.

TABLE OF CONTENTS:

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PART I. GENERAL PROBLEMS OF THE TECHNOLOGICAL
PROCESSES OF ASSEMBLY AND ERECTING WORK IN AIRCRAFT CONSTRUCTION

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Card 2/11

SAPAROVSKIY, Sergey Vladimirovich; KOMAROV, Anatoliy Dmitriyevich;
SMELYAKOV, Yevgeniy Petrovich; FARMANOVA, Viktoriya
Nikolayevna; PYT'YEV, P.Ya., inzh., retsenzent; KOROBOV,
V.K., kadi. tekhn. nauk. retsenzent; RAZUMIKHIN, M.I.,
prof., red.; PETROPOL'SKAYA, N.Ye., red.

[Rubber pad forming] Shtempovka rezinoi. Kuibyshev,
Kuibyshevskoe knizhnoe izd-vo, 1971. 106 p.
(MIRA 18:7)

IL'INSKIY, G.A.; PLOTNIKOVA, M.I.; RAZUMIKHIN, N.V.; RYUMIN, A.K.; SARSADSKIKH, N.N.; SVARICHEVSKAYA, Z.A., doktor geogr. nauk; IL'INA, M.Ye., red.; VODOLAGINA, S.D., tekhn. red.

[Fundamentals of placer deposit surveying] Osnovy poiskov rossypei; uchebnoe posobie. Leningrad, Izd-vo Leningr. univ., 1961. 122 p.
(MIRA 14:8)

1. Sotrudniki Leningradskogo gosudarstvennogo universiteta im. A.A. Zhdanova (for Il'inskiy, Razumikhin, Ryumin, Svarichevskaya).
2. Sotrudniki Vsesoyuznogo geologicheskogo instituta (for Sarsadskikh, Plotnikova)

(Ore deposits) (Geological survey)

RAZUMIKHIN, Nikolay Vasil'yevich. Prinimal uchastiye KLENOVITSKIY,
N.P.; PETROVSKAYA, T.I., red.

[Experimental studies of the evolution of the roundness
of rock fragments] Eksperimental'nye issledovaniia evo-
liutsii okatannosti oblomkov gornyykh porod. Leningrad,
Leningr. univ., 1965. 65 p. (MIRA 18:12)

RA/UMIKHIN, N.V.

Pebble orientation in the beds of some rivers in the Urals.
Vest. VNI 19 no.12:98-104 '64.

(MIRA 17:11)

RAZUMIKHIN, N.V.

Three weeks in fraternal Czechoslovakia. Vest. LQ 18 no.12:
139-142 '63. (MIRA 16:8)

(Czechoslovakia--Hydrology)

24 (8)

06181
SOV/115-59-11-9/36

AUTHORS: Zhokhovskiy, M.K., Razumikhin, V.N., Zolotikh, Ye.V.,
Burova, L.L.

TITLE: A Thermodynamic Scale of High Pressures up to 25,000
kg/cm²

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 11, pp 26-29

ABSTRACT: This article is based on a previous publication of the
aforementioned authors [Ref 1]. At that time the au-
thors investigated the curve of melting mercury up to
20,000 kg/cm². They applied it for solving the problem
of a high pressure scale. They confirmed experimental-
ly that the extrapolation of the equation of the curve
of melting mercury (on which the thermodynamic scale of
pressure is base) is permissible up to 20,000 kg/cm²
with an accuracy of 0.4-0.8%. In this article, the au-
thors present the results of new investigations in a
pressure range extended to 25,000 kg/cm². The equip-
ment for the experimental determination of the phase
equilibrium of mercury and the methods of determining

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SOV/115-59-11-9/36

A Thermodynamic Scale of High Pressures up to 25,000 kg/cm²

the equilibrium pressures and temperatures in the new pressure range up to 25,000 kg/cm², remained the same as in Ref 1. The thermodynamic scale of pressures was extended to 25,000 kg/cm² with an accuracy of $\pm 0.5\%$. A group of reference resistance pressure gages was developed which reproduce the thermodynamic scale of pressures within the aforementioned limits and with the aforementioned accuracy. A device was developed which may be used for transferring the values of the pressure scale to any device of high pressure engineering. This device consists of manually and mechanically operated hydraulic pumps, pressure multipliers to 6000 and 25,000 kg/cm² and the necessary valve system as shown in Fig 2. In the interval between 5000 and 25,000 kg/cm², any intermediate value may be produced. There are 1 diagram, 1 graph, 1 table, and 3 Soviet references.

Card 2/2

RAZUMIKHIN, N.V.

Studying river bed processes on hard models. Vest. LGU 15 no.24;93-
105 '60. (MIRA 13:12)

(Rivers)

(Hydraulic models)

BAZUMIKHIN, N.V.; NAZAROV, G.V.

Erosion conditions in the southern trans-Volga region. Trudy Lab.
ozeroved. 7:82-86 '58. (MIRA 11:10)

Leningradskiy gosudarstvennyy universitet i Institut geografii
AN SSSR.

(Volga Valley--Erosion)

RAZUMIKHIN, N.V.

~~Hydraulic~~ size of diamonds and their principal accessories [with
summary in English]. Vest. LGU 13 no.6:132-140 '58.

(MIRA 11:5)

(Diamonds)

RAZUMIKHIN, N.V.

Distribution of snow in drainage basins of the southern
part of the trans-Volga region and the spring surface run-
off. Uch.zap.LGU no.292:81-105 '60. (MIRA 13:7)
(Volga Valley—Snow) (Ural Valley—Snow) (Runoff)

RAZUMIKHIN, N.V.

Conference on silt accumulation in small bodies of water in flat
regions of the U.S.S.R. Vest. LGU 12 no.18:151-152 '57. (MIRA 11:3)
(Silt)

RAZUMIKHIN, N.V.

Some problems on runoff formation in the southern trans-
Volga region. Vest. Len. un. 11 no.24:142-151 '56. (MLRA 10:2)

(Volga Valley--Runoff)

RAZUMIKHIN, N.V.

Using a rain gauge for measuring winter precipitation in the
southern trans-Volga region. Meteor. i gidrol. no.1:46 Ja '57.
(MLRA 10:3)

(Volga Valley--Snow--Measurement)

RAZUMIKHIN, M.I.

[Preparatory work in airplane construction] Zagotovitel'nye raboty v samoletostroenii. Moskva, Glav. red. aviatsionnoi lit-ry, 1946. 410 p.

(MLRA 6:8)

(Airplanes--Design and construction)

RAZUMIKHIN, M.I.

Zagotovitel'nye raboty v samoletostroenii. Dopushcheno v kachestve uchebnogo posobiia dlia aviatsionnykh tekhnikumov. Moskva, Glav. red. aviats. lit-ry, 1946. 411 p., illus., tables.

Bibliography: p.408

Title tr.: Preparatory work in aircraft construction. Approved as a textbook for aeronautical technical schools.

TL671.2R3

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

HAZUMIKHIN, M.I.; YURGINS, V.F., professor, redaktor; RUMYANTSEVA, M.S.,
redaktor; ZUDAKIN, I.M., tekhnicheskii redaktor.

[Assembling units and assemblies of riveted aircraft structural parts]
Sborka uzlov i agregatov klepanykh konstruktsii. Pod red. V.F. Iurginsa.
Moskva, Oborongiz, Glav. red. aviatsionnoi lit-ry, 1946, 240 p. (Tekhnologiya samoletostroeniia, vol. 3)
(Airplanes--Design and construction) (MIRA 8:2)

RAZUMIKHIN, M. I.

PHASE I Treasure Island Bibliographic Report

00000126

BOOK

Call No.: TL 671.2.R3

Author: RAZUMIKHIN, M. I., Assistant Prof.

Full Title: PREPARATORY WORKS IN AIRCRAFT CONSTRUCTION

Transliterated Title: Zagotovitel'nye raboty v samoletostroyenii

Publishing Data

Originating Agency: None

Publishing House: Main Editorial Office of Aviation Literature, Peoples'
Commissariat of Aviation Production (NKAP), State
Publishing House of the Defense Industry (Oborongiz)

Date: 1946

No. pp.: 412

No. copies: 10,000

Editorial Staff

Editor: None.

Technical Editor: None.

Editor-in-Chief: None.

Appraiser: None.

Text Data

Coverage: This book describes the processes of production of aircraft parts and the preparation for production. Concepts of the production and technological processes, and of the serial method of aircraft production are explained. The preliminary stamping work, the preparation of aircraft parts on metal-cutting machines, and the production of wooden parts are described in detail. Numerous charts, diagrams and tables appear in the text.

RAZUMIKHIN, M. I.

Card 2/2

00000126

Call No.: TL 671.2.R3

Full Title: PREPARATORY WORKS IN AIRCRAFT CONSTRUCTION

Purpose: Approved by the School Board as a textbook for aviation technicians,
and also useful for industrial workers in aircraft factories.

Facilities: None.

No. Russian and Slavic References: None

Available: Library of Congress.

BOYTSOV, Vasiliy Vasil'yevich, prof.; GRIGOR'YEV, Vasiliy Prokhorovich;
RAZUMIKHIN, Mikhail Ivanovich; SELEZNEVA, Anna Andreyevna;
SHEKUNOV, Yevgraf Porfir'yevich [deceased]; BELYAVSKIY, G.A.,
inzh., retsenzent; BRODYANSKIY, Yu.M., inzh., red.; SUVOROVA,
I.A., izdat.red.; PUKHLIKOVA, N.A., tekhn.red.

[Assembling and mounting work] Sborochnye i montazhnye raboty.
Pod obshchei red. V.V.Boitsova. Moskva, Gos.izd-vo obor.pro-
myshl., 1959. 476 p. (MIRA 13:5)
(Airplanes--Design and construction)

RAZUMIKHIN, N. V.
 AUTHOR: Razumikhin, N. V.

TITLE: Winter Precipitation in Southern Trans-Volga Registered by means of
 Pluviometer. (Ob uchete dozhdemeron Zimnikh osadkov v Yuzhnom
 Zavolzh'ye)

PERIODICAL: Meteorologiya i Gidrologiya, 1957, No. 1, pp. 46 (U.S.S.R.)

ABSTRACT: Data are presented on snow surveys conducted along the central part of
 Southern Trans-Volga, which make it possible to compare the magnitude of
 snow deposits at outset of the thawing season with the total accumulation
 of winter precipitation. As is evident from table 1, the difference
 between the snow deposits at the beginning of thawing and total
 accumulation of winter precipitation in the area investigated is
 relatively small. Attention is called to the fact that the winter
 precipitation sometimes exceeded the volume of snow at the thawing
 season when as result of blowing out the precipitation from the rain
 gage there should have been an entirely different (reverse) phenomenon.
 The reason for this should be sought in the climatic conditions of
 the region which are distinguished by greater recurrence of drifting

Card 1/2

RAZUMIKHIN, N.V.

Studies of placer deposits must be based on scientific principles.

Vest.LGU 15 no.12:156-157 '60.

(MIRA 13:6)

(Ore deposits)

RAZUMIKHIN, N. V.

"Formation of Surface Runoff in the Territory of South
Zavolzhya Under Natural Conditions and in a Cultivated Field
Used for Various Agrotechnical Purposes." Cand Geog Sci, Leningrad
State U, Leningrad, 1954. (RZhGeol, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical
Dissertations Defended at USSR Higher Educational Institutions
(14)

tanning drum S. A. Razumkin Russ. 34,063, Feb. 28, 1934. The charging and discharging of the tanning drum are facilitated by having the side surface arranged in the form of a spiral, the outer edge of which forms the discharge opening.

A 5 M - 3 L A METALLURGICAL LITERATURE CLASSIFICATION

RAZUMOV, K A

RAZUMOV, K A

Proyektirovaniye obogatitel'nykh fabrik (Planning concentration plants)
Moskva, Metallurgizat, 1952.
600 p. diagrs., tables.
"Literatura": p. (598)-600

N/5
741.314
.R2

RAZUMOV, K.A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 23-25, 2. Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Kazumov, K.A.	"Planning of Dressing Plants" (textbook)	Leningrad Mining Institute

1954. 1 Jan. 1954

RAZUMOV, K.A.; SIN VEY-CHZHUN [Hsing Wei-chung]; YANIS, N.A.

Effect of calcium ~~and~~ iron cations on the flotation of beryl and biotite
with a cation collector. Obeg. rud 7 no.3:3-5 '62. (MIRA 164)
(Flotation) (Cations)

S/137/63/000/002/006/034
A006/A101

AUTHORS: Razumov, K. A., Hsing Wey-chung

TITLE: The effect of sulfuric acid upon beryllium flotation with sodium oleate

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1963, 9, abstract 2053
("Izv. vyssh. uchebn. zavedeniy. Gorn. zh.", 1962, no. 6, 176 - 181)

TEXT: In flotation of beryllium ore according to the acid scheme, high H_2SO_4 dosage is employed at the beginning of the process to activate the mica. The effect of H_2SO_4 on subsequent beryllium flotation was studied. It was established that preliminary processing of beryllium with H_2SO_4 and its subsequent washing with water reduce sorption of Na oleate on its surface and simultaneously reduce the flotability of the mineral. Fixing of H_2SO_4 in the process with washing does not take place. Addition of H_2SO_4 to the pulp which contains beryllium and that was preliminarily mixed with Na oleate, increases several times sorption of the collector and entails simultaneously a sharp beryllium depres-

Card 1/2

S/137/63/OCJ/002/006/034
A006/A101

The effect of sulfuric acid upon...

sion. The conclusion is drawn that when H_2SO_4 is added to the pulp, additional non-oriented adsorption of oleic acid molecules takes place; these molecules are fixed on hydrocarbon radicals of molecules of an oriented oleatic layer formed previously. A different depressing effect of H_2SO_4 upon beryllium and biotite was established experimentally, and the possibility is shown of using this difference for their separation.

A. Shmeleva

[Abstracter's note: Complete translation]

Card 2/2

RAZUMOV, K.A., prof.; SIN VEY-CHZHUN

Effect of sulfuric acid on the flotation of beryl with sodium
cleate. Izv. vys. uch. zav.; gor. zhur. 5 no.6:178-181 '62.
(MIRA 15:9)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo
Znameni gornyy institut G.V.Plekhanova. Rekomendovana kafedroy
obogashcheniya poleznykh iskopayemykh.
(Beryl) (Flotation) (Sulfuric acid)

RAZUMOV, K.A., prof.

Equilibrium of particles on the "liquid - gas" interface during
flotation. Obog. rud no.6:29-33 '61. (MIRA 15:3)

1. Leningradskiy gornyy institut.
(Flotation) (Wetting)

RAZUMOV, K.A.; CHON DYU SON

Methods of testing the susceptibility of lead-zinc ores to undergo
dressing. Obog. rud 4 no.1:8-13 '59. (MIRA 14:8)
(Flotation) (Nonferrous metals)

RAZUMOV, K.A., prof.

Formula for the calculation of the metal content in aggregates.
Zhig. rad 6 no.1:63-64 '61. (MIRA 14:8)
(Ores--Sampling and estimation)

RAZUMOV, K.A.; CHON DYU-SON [Chon Tu-son]

Reproducibility and accuracy of tests on tin-zinc ore flotation.
Obog.rud 3 no.4:9-16 '58. (MIRA 12:2)
(Flotation--Testing) (Tin ores) (Zinc ores)

RAZUMOV, K. A.

Professor K.A. Razumov (Leningrad Mining Institute); B.G. Krangachev (Armgirosvetmet)

"Some shortcomings of Mekhanobr"

report presented at the 4th Scientific and Technical Session of the Mekhanobr
Inst, Leningrad, 15-18 July 1958

USSR / Forest Science. Forest Cultures.

K-4

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77535

Author : ~~Razumov, I. A.~~

Inst : Central Institute of Prognoses

Title : Agrometeorological Conditions of the Death of Oaks

Orig Pub : Tr. Tsentr. in-ta prognozov, 1957, vyp. 53, 58-74

Abstract : Data are cited on the agrometeorological conditions of the death of oaks in forest belts of different ages and of various agro engineering in the Experimental-Instructional MTS imeni Vil'yams of the Chkalovskaya Oblast. The death of acorns sown in the forest belt occurred basically from an insufficiency of moisture in the upper layers of the soil in the period of their swelling and germination. With the decrease of reserves of productive moisture in the upper 20-cm soil layer, up to 5-10 mm of the shoots withered away and almost all of the acorns perished. With

Card 1/3

USSR / Forest Science. Forest Cultures.

K-4

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77535

reserves of moisture of 10-20 mm, the sprouts appeared with great delay and died (up to 50%) at the slightest unfavorable meteorological effects. Strong and frequent damage of the oaks by late spring frosts did not lead to the complete death of the oaks. Aridity, with a relative humidity of air of below 20%, and an air temperature of over 30°, while that of the soil of over 55°, caused temporary damages and shedding up to 5-10%. Basic reasons for mass deaths of the oaks were soil aridity and winter frosts. In 1951/52 heavy deaths of oaks were observed in the investigated regions during winter. In addition, in the second half of November 1951, the temperature of the air and surface of the soil decreased to -27° with the absence of snow. The temperature of the soil at a depth of 3 cm decreased to -19°, and at a depth of 10-20 cm to -11°. Under good and satisfactory conditions

Card 2/3

MIKHAYLOV, M.I., doktor tekhn. nauk, prof.; RAZUMOV, L.D., kand. tekhn.
nauk

Electric parameters of underground metal pipelines. Elektrichestvo
no.5:60-64 My '63. (MIRA 16:7)

(Pipelines--Corrosion)

MIKHAYLOV, M.I., prof., doktor tekhn. nauk; RAZUMOV, L.D., kand.
tekhn. nauk

Electromagnetic effect of high-tension lines on metal
pipelines and methods of protecting them. Trudy VNIIS'
no.13:96-198 '62. (MIRA 16:11)

2. April, 1. ...

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KLIMOV, Mikhail Aleksandrovich; RIZUMOV, Leonid Davydovich;
POPOVA, N.E., otv. red.; BATRAKOVA, T.A., red.

[Protection of high-frequency cables from the interfering action of electromagnetic fields] Zashchita tsepei vysokochastotnykh kabelei ot meshaiushchego vlianiia elektromagnitnykh polei. Moskva, Izd-vo "Sviaz'," 1967.
68 p. (EIRA 18:1)

RAZUMOV, L.D.

Determination of the dangers of the electrical effects of the
contact networks of a.c. railroads. Elektrosviaz' 17 no.8:
59-64 Ag '63. (MIRA 16:8)

(Electric railroads--Wires and wiring)
(Electric railroads--Safety regulations)

MARCHENKO, A.F.; NIKOL'SKIY, K.K.; RAZUMOV, L.D.; AFANAS'YEV, A.P., otv.
za vypusk; KUVSHINOV, B.P., otv. za vypusk; BROYT, E.M., red.;
SLUTSKIN, A.A., tekhn.red.

[Revisions and additions to the "Regulations for the corrosion
protection of underground communication cables."] Izmeneniia i
dopolneniia k "Rukovodstvu po zashchite podzemnykh kabelei svyazi
ot korrozii" (Sviaz'izdat, 1956 g.). Moskva, Sviaz'izdat, 1959.
21 p. (MIRA 13:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye mezhdugorodnoy
telefonno-telegrafnoy svyazi. 2. Tsentral'nyy nauchno-issledo-
vatel'skiy institut svyazi (for Marchenko, Nikol'skiy, Razumov).
(Electric lines--Underground)

AUTHORS:

Mikhaylov, M. I., Professor, Doctor of Technical Sciences, Razumov, L. D., Candidate of Technical Sciences (Moscow) SOV/105-58-10-4/28

TITLE:

The Galvanic Effect of Alternating-Current Electrified Railways on Single-Conductor Circuits (Gal'vanicheskoye vliyaniye elektrifitsirovannykh zheleznnykh dorog peremennogo toka na odnoprovodnyye tsepi)

PERIODICAL:

Elektrichestvo, 1958, Nr 10, pp 20 - 24 (USSR)

ABSTRACT:

The inductive influence of a.c. traction upon single-conductor circuits, that is to say on telegraph circuits and remote amplifier feeding circuits has already been thoroughly investigated. Little effort, however, has hitherto been made to study the galvanic effect. It is demonstrated that in the protection of single-conductor circuits against disturbances the maximum a.c. potential drop between the ground points of the telegraph or feeding circuits is the essential factor. This potential drop is primarily dependent upon the location of the ground points with respect to the track of the electrified railroad. This paper covers

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The Galvanic Effect of Alternating-Current
Electrified Railways on Single-Conductor Circuits

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several typical cases. In the determination of the stipulated clearance between single-conductor circuits and a.c. electrified railway tracks the galvanic and the magnetic **effect** must be taken into account. A diagram illustrates the results of the computation of the maximum attainable voltages and potential drops caused by magnetic **effects** and galvanic effects, respectively, in a single-conductor circuit of a cable with different shielding factors of the envelope and of the armor of the cable. It appears that the potential drop caused by galvanic **effects** may reach considerable values if the resistance of the ground is high. A check of the formula presented carried out **on** the test track Ocherel'ye-Pavelets in the vicinity of the Vilenka stop exhibited deviations from the computed values keeping within the limits of experimental error. There are 4 figures, 2 tables, and 6 references, 4 of which are Soviet.

SUBMITTED:

April 28, 1958

Card 2/2

RAZUMOV, L.D., inzhener.

Calculating the danger of electrolytic corrosion of underground
metallic structures. Elektrichestvo no.9:67-73 S '56. (MLRA 9:11)

1. Tsentral'nyy nauchno-issledovatel'skiy institut svyazi.
(Electrolytic corrosion)

RAZUMOV, L.D., kand.tekhn.nauk

Shielding action of underground metal structures with consideration
of galvanic effect of d.c. railroads. Elektrichestvo no.7:61-66
Jl '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stro-
itel'stva.

(Electric railroads)
(Electric lines—Corrosion)

MIKHAYLOV, M.I., doktor tekhn.nauk; RAZUMOV, L.D., kand.tekhn.nauk

Overvoltage protection of main cable lines. Vest. sviazi 21
no.12:9-11 D '61. (MIRA 14:12)
(Telephone lines) (Electric protection)

PUTILOVA, I.N.; MARCHENKO, A.F.; NIKOL'SKIY, K.K.; RAYTSYN, G.A.;
RAZUMOV, L.D.; CHESNOKOVA, T.V., red.; CHURAKOVA, V.A.,
tekhn. red.

[Corrosion of metal telecommunication structures and preventive measures] Korroziia i zashchita metallicheskih sooruzhenii sredstv sviazi. Moskva, Sviaz'izdat, 1962.

175 p.

(Electric lines--Corrosion)

(MIRA 16:3)

(Electric lines--Poles and towers)

RAZUMOV, L.D.

Shielding effect of underground metal structures during the
galvanic action of a.c. railroads. Elektrosviaz' 17 no.3:

64-70 Mr '63.

(MIRA 16:4)

(Electric railroads--Wires and wiring)

(Shielding (Electricity))

L 11210-63

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S/0105/63/000/005/0060/0064

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AUTHOR: Mikhaylov, M. I. (Dr. of technical sciences, Professor); Razumov, L. D.
(Candidate of technical sciences)

TITLE: Electric parameters of underground metal pipelines

SOURCE: Elektrichestvo, no. 5, 1963, 60-64

TOPIC TAGS: underground pipeline electric parameters

ABSTRACT: Dangerous voltages can be set up in the pipelines when they run along the electric railways and high-voltage lines. On the other hand, the pipelines may shield the nearby communication lines. Hence, pipeline electric parameters are important. Resistance, inductance, and impedance of pipelines are estimated in the article by means of elementary engineering formulas. The pipe-earth resistance is described by the formulas allowing for the effects of pipe protective proofing and for earth resistivity. It is stated that this resistance is practically independent of frequency (within 50-800 cps). The resistance of bituminous proofing is $3-5.5 \times 10^5$ ohms sq. m. for newly laid pipes, and drops to 2,000-100 ohms sq. m. for old pipes. Orig. art. has: 5 figures and 23 formulas.

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2/2

MIKHAYLOV, M.I., doktor.tekh.nauk; RAZUMOV, L.D., kand.tekhn.nauk

Protecting telephone lines entering a district of high voltage
substations from dangerous voltages. Elek.sta. 31 no.7:71-76
Jl '60. (MIRA 13:8)

(Telephone)

(Shielding (Electricity))

NIKOL'SKIY, K.K., inzhener, mladshiy nauchnyy sotrudnik; RAZUMOV, L.D.,
inzhener, mladshiy nauchnyy sotrudnik.

Modernization of the PED-45 electric drainage arrangement. Vest.
svyazi 16 no.5:11-12 My '56. (MLBA 9:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi.
(Electric cables) (Electrolytic corrosion)

RAZUMOV, L.D., kand.tekhn.nauk

Best location for and effectiveness of insulating couplings and
flanges in protecting underground metal structures against
electrolytic corrosion. Elektrichestvo no.2:19-24 F '60.

(MIRA 13:5)

(Electrolytic corrosion)